



US ARMY CORPS  
OF ENGINEERS  
ST. LOUIS DISTRICT

# Navigation Notice

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River:  
**MISSISSIPPI RIVER**

Date:  
**2 DECEMBER 2002**

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Location:  
**SEE BELOW**

Effective Period:  
**SEE BELOW**

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In Reply Refer to:  
**CEMVS-CO-NN**

**LEGAL NOTICE TO NAVIGATION**

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UPPER MISSISSIPPI RIVER ICE CONDITIONS  
UMR MILE 0.0 - 301.2  
PN 02-06

1. All tows are cautioned to be alert for changing conditions and possible hazards due to ice formations. This year is expected to be an extremely difficult winter navigation season. Severe navigation problems can always be expected throughout the ice-forming season.

2. Gorged ice becomes a particular hazard when attempts are made to drive barges through the formation. Barges forced through or over gorged ice are frequently holed, stoved in or buckled, which usually results in sinking. Navigators are advised to exercise due caution to avoid sinking barges and subsequent blockage of the navigation channel. Gorged ice may also create unusual currents and high-localized flow or outdraft conditions due to water bypassing the temporary dam formed by the gorge. Navigators approaching an ice gorge should make certain that the towboat has sufficient power to properly control the number of barges in tow under such unusual conditions of flow.

3. Sheet ice, will at times, prevent opening of the upper and lower miter gates. When the miter gates cannot be fully opened into recesses, they are highly vulnerable to extensive damage from tows entering or departing the lock chamber. Navigators are cautioned to exercise extreme care when entering or departing the lock chamber to avoid damage to the miter gates. When ice builds up to the extent that full usage of the lock chamber is prohibited, length and/or width restrictions will be imposed on lockages. Double tripping or use of an industry helper boat will be required when the lock is unable to process the first cut of a double due to ice conditions.

4. During periods of heavy icing, all towboat operators are required to arrange their tows so that recoupling does not occur between box end barges during a lockage. Rake to box ice couplings the entire width of the tow, at break points of the tow, will be required at all locks when ice is present at the lock. Ice conditions at UMR locks may occur at any time during the winter navigation season. In the past, ice trapped between box

to box barge couplings have caused long delays in re-coupling the two sections of a tow, thereby impeding flow of traffic through the locks.

5. If a tow is arranged so that recoupling occurs between box end barges and the lockage will result in unusual delays to navigation, the Lockmaster will require loss of lock turn or double-tripping and use of an industry-provided helper boat. If double tripping is required, the tow will lock through in sections with a towboat attending each section, and each section of the tow will be moved out of the lock approach before re-coupling. Towing companies need to stay aware of forecasted changes in weather conditions prior to tow departure from fleeting areas to insure that box-to-box couplings are not in the river system when ice conditions occur.

6. Consideration will also be given to limiting size of tows if heavy ice conditions warrant. Observation during past severe winters indicates that eight jumbo barges (two wide) appear to be the best configuration to allow adequate traffic movement. Notice will be given if conditions warrant the limitation of the size and/or configuration of tows.

7. The immediate concern in this area is not limited to financial responsibility for the damages to navigation structures. The primary objective is to eliminate all preventable incidents that will delay traffic.

8. As a result of the failure of the main lock Illinois leaf miter gate in 2001 at Melvin Price Locks and Dam, our ability to flush ice in the main lock chamber has been impacted. When ice building on the lock wall prevents us from fully recessing the miter gates we will stop flushing ice until a full recessed condition can again be obtained. During periods when full recessed condition cannot be achieved Industry assistance will be needed to assist in performing ice lockages.

9. At this time, flows on the Mississippi River and its tributaries are 67% or less of the normal flow for this time of the year. National Weather Service long-range forecasts call for above normal temperatures and below normal precipitation for the winter navigation season. If low flow conditions persist, velocities will be minimal leading to ice build up at bends in the river and on submerged training structures. Caution is advised to tow operators during the upcoming winter period. Buildup of ice on both barges and river structures will make movement difficult. The navigation pools are at normal levels at the present time.

FOR THE DISTRICT ENGINEER

/s/  
Walter C. Feld, P.E.  
Chief, Construction-Operations  
Readiness Division